

~~YESENOVSKIY-LASHKOV, Yuriy Konstantinovich, inzh.; POLYAK, David~~  
~~Grigoriyevich, inzh.; POLYAKOV, LAPIDUS, V.I., red.;~~  
BODANOVA, A.P., tekhn. red.

[Automatic control of motor vehicles] Avtomatizatsiia  
upravleniia avtomobilem. Moskva, Avtotransisdat, 1963. 112 p.  
(MIRA 16:8)  
(Motor vehicles) (Automatic control)

YESENOSKIY-LASHKOV, Yu.K.; MARKOVNIKOV, V.L.; ANDRYUSHINA,  
Ye.A., inzh., nauchn. red.; SHEMINDRINA, Ye.A., red.

[Structures of rear axles of motorbuses, trolleybuses and  
motortrucks; survey of foreign engineering] Konstruktsii  
zadnikh mostov avtobusov, troleibusov i gruzovykh avtomo-  
bilei; obzor zarubezhnoi tekhniki. Moskva, TSentr. in-t  
nauchno-tekhn. informatsii mashinostroeniia, 1962. 65 p.  
(Seria XII: Avtomobilestroenie) (MIRA 17:5)

ANUPRIYEV, V., dotsent; YESENTAYEVA, R.

Determining the quantitative ratio of the slaughtered beef cattle dependent on the live weight. Mias.ind. SSSR 33 [i.e.34] no.2:21-24 '63.  
(MIRA 16:4)

1. Moskovskiy tekhnologicheskiy institut myasnoy i molochnoy promyshlennosti.

(Slaughtering and slaughter houses—Statistics)

ANUFRIYEV, V., dotsent; YESENTAYEVA, R.

Principle of similarity for the production lines processing large  
beef cattle. Mias., ind. SSSR 34 no. 4:54-56 '63. (MIRA 16:10)

1. Moskovskiy tekhnologicheskii institut myasnoy i molochnoy  
promyshlennosti.

YESENZHOLOV, A.

Kazakh Arkaromerino sheep. Vest. AN Kazakh, OSN 18 no. 10:  
71-74 0 '62. (MIRA 17 9)

YESEPKINA, H.A.

Investigation of frequency characteristics of long feeder lines  
having periodic changing wave impedance along the line. Trudy  
IPI no.181:51-59 '59. (MLRA 10:1)  
(Electric cables)

YESEPKINA, N.A.

**AUTHOR:** ESEPKINA, N.A. PA - 2656  
**TITLE:** On a Method of Measuring Directivity Diagrams for Radioteles-  
 copes of High Resolving Power. (Ob odnom metode izmereniya diagramm  
 napravlenosti radioteleskopov s vysokoy razreshayuscey sposob-  
 nost'yu, Russian).  
**PERIODICAL:** Doklady Akademii Nauk SSSR, 1957, Vol 113, Nr 1, pp 94 - 96  
 (U.S.S.R.)  
 Received: 5 / 1957 Reviewed: 6 / 1957  
**ABSTRACT:** The radioastronomy antennae are needed for the determination of the  
 data on the distribution of "radio brightness" among the cosmic  
 sources and for the study of point sources, the diagrams of  
 directivity of which are accurate up to angular minutes. Measuring  
 these diagrams according to cosmic sources is difficult.  
 Diagrams of the antennae with an aperture of  $D = 3,5 \cdot 10^3 \lambda$  can be  
 recorded in the Fresnel zone and can be compared with the cor-  
 responding computed diagrams. In this case, however, the distances R  
 of the order of some kilometers must be selected for the purpose  
 of making the diagram sensitive to small phase modifications. This  
 difficulty, however, can be avoided by means of deliberately  
 creating a phase difference at the aperture of the antenna which com-  
 pensates the distance caused by the finite distance in the measuring  
 zone. This phase difference at the aperture of the antenna can be  
 produced in three different ways: By taking out the radiator from

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PA - 2656

On a Method of Measuring Directivity Diagrams for Radiotelescopes of High Resolving Power.

the focus, by deformation of the mirror (if the antenna consists of individual movable parts), etc.

The present work examines the problem of the measuring the directivity diagram by taking the radiator out of the focus. A diagram shows the course of the rays in parabolics. Next, a formula for the phase difference at the aperture of the parabola is given. The directivity diagram obtained by means of these deliberations corresponds to a remote zone. Expressions for these distances  $R$  are also given in which the diagram can be measured in the case of shifting of the radiator (out of focus).

This method for the measuring of a directivity diagram was verified experimentally by means of a parabolic mirror. The diagrams measured in near and remote zones agree well with each other.

The author intends to measure the directivity diagram of an antenna for centimeter waves with an aperture of about 100 m. This method is apparently suited for measuring the characteristics of antennae with small directivity diagrams and for measuring their amplification coefficients in the case of weak influence of the mirror on the radiator.

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PA - 2656

On a Method of Measuring Directivity Diagrams for Radioteles-  
copes of High Resolving Power.

(2 illustrations and 1 table)

ASSOCIATION: Main Astronomical Observatory.  
PRESENTED BY: M.A.Leontovich, Member of the Academy  
SUBMITTED: 5.11.1956  
AVAILABLE: Library of Congress.

Card 3/3

YEREPKINA, H.A., Cand Tech Sci—(diss) "Sharply-directed mirror antennae  
with *variable* ~~an alternative contour of the~~ reflector for radio-telecomms."

Len, 1958. 12 pp with ill. (Min of Higher Education USSR. Len Poly-  
tech Inst in M.I. Kalinin), 150 copies (KL, 49-53, 123)

-47-

SOV/58-59-5-11257

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 5, p 191 (USSR)

AUTHOR: Yesepkina, N.A.

TITLE: Short-Distance Measurement of Highly-Directional Antenna Directional Diagrams

PERIODICAL: Nauchno-tekhn. inform. byul. Leningr. politekhn. in-t, 1958, Nr 5, pp 9 - 14

ABSTRACT: The author gives a detailed description of the method proposed earlier (RZhFiz, 1957, Nr 11, 28739) for measuring the directional diagrams of highly-directional antennae<sup>2</sup> in the Fresnel region. It is shown that under these same conditions the amplification factor of the antenna can be measured at short distances. Using the radiotelescope of the Main Astronomical Observatory, which has an aperture length of  $\sim 100$  m, the method was verified experimentally on 3 and 10 cm wavelengths and at a distance of 4.2 km from the transmitter.

N.

Card 1/1

KHAYKIN, S.E.; KAYDANOVSKIY, N.L.; YEMEFKINA, N.A.; SHIVRIS, O.N.

Large Pulkovo radio telescope. Izv.GAO 21 no.5:3-26 '59.  
(MIRA 13:9)

(Pulkovo Observatory--Telescope, Radio)

AUTHOR: ~~Yesepkina~~, N.A.

SOV/120-59-2-6/50

TITLE: ~~Experience with~~ Adjusting a Large Radio Telescope  
(Opyt nastroyki bol'shogo radioteleskopa)

PERIODICAL: Pribery i tekhnika eksperimenta, 1959, Nr 2, pp 24-26  
(USSR)

ABSTRACT: A description is given of an experimental test of a proposed method of measuring the parameters of a narrow-beam antenna within the Fresnel zone. Measured patterns and gain factors are given for systems with apertures of about  $1000 \lambda$  and  $2000 \lambda$ . The effects of some errors in the surfaces are examined. Antenna systems of large aperture have become common in radio astronomy. These systems have main lobes only a fraction of a degree wide. There are serious difficulties in adjusting such systems, because the field patterns involve distances of hundreds of kilometres. It is not possible to measure the patterns at such large distances. The author has proposed (Ref 1) a method of measuring the patterns at relatively short distances (a few kilometres), i.e. within the Fresnel zone. The out-of-focus effects caused by the finite distance are compensated by shifting the emitter away from the focus.

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SOV/120-59-2-6/50

Experience with Adjusting a Large Radio Telescope

To make measurements at a distance  $R$  the emitter has to be moved from the focus by a distance  $b$  given by

$$b = f^2/R \quad (1)$$

or 
$$b = (f^2/R) [1 + a^2/4f^2], \quad (2)$$

where  $f$  is the focal length and  $2a$  is the width of the paraboloid at the focus. This method has been used with the telescope at the Main Astronomical Observatory at Pulkovo, which was designed by Khaykin and Kaydanovskiy; the axis was set horizontal for the purpose, (Ref 2). The reflector is then a paraboloidal cylinder of height 3 m. The bottom edge of this cylinder is 1.5 m above the ground. The reflector is made up of separate adjustable strips, and so the horizontal width of the cylinder can be varied from a few metres up to 130 m. The straight antenna works at 3 cm and 10 cm. This rod is 1.5 m above ground, with its centre placed symmetrically relative to the cylinder. At 3 cm the author used  $2a = 50$  m, and at 10 cm  $2a = 100$  m. In both cases  $f = 46$  cm. At 3 cm ( $2a = 50$  m) the pattern is formed at  $R = 160$  km, and at

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Experience with Adjusting a Large Radio Telescope

10 cm ( $2a = 100$  m) at  $R = 200$  km. In both cases measurements were made at  $R = 4.2$  km. The antenna did not work optimally with  $2a = 50$  m ( $0.4 P_{\max}$  at the edges, instead of  $0.1 P_{\max}$  at  $2a = 100$  m). Fig 1 shows the pattern found with  $2a = 50$  m with the antenna at the focus, or displaced from the focus. Fig 1, Curve 3, shows the pattern given by a point source (a spot on the sun). Fig 2 gives the patterns found at  $R = 4.2$  and from a sunspot for  $2a = 100$  m. Fig 1, Curve 2, shows that, at  $R = 412$  km and with the antenna at the focus ( $b = 0$ ), the diagram is badly distorted relative to the real one (curve 2); the real diagram (curve 3) and the one recorded at the close distance with the antenna displaced (curve 1) agree quite well. The antenna with a source placed at  $R = f^2/b$  is equivalent to a properly focussed one within the wave zone. Hence one can measure the gain of the antenna and can find the proper position for it, and can determine the effects of errors in the surfaces. Various forms of error could be studied, because the individual strips are adjustable. Fig 3 shows the pattern recorded with one part of the reflector offset a distance  $\Delta l$  from the other.

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SOV/120-59-2-6/50

Experience with Adjusting a Large Radio Telescope

Fig 4 gives the pattern with the reflector distorted to give a periodic phase shift with a period of  $3\lambda$ , where  $\Delta\phi_1$  is the deviation from a true paraboloid. Fig 3 shows that  $\Delta\phi = \lambda/4$  results in no emission at all in the principal direction. Fig 4 shows that the periodic error causes side lobes, whose angular distances from the main lobe are determined by the period of the error. The gain of the system was measured relative to the antenna without the reflector, or relative to the antenna with the standard horn. The value was 52 db for  $2a = 50$  m and  $\lambda = 3$  cm, which corresponds to a coefficient of use of the surface of 0.12. This low value results from poor illumination of the mirror, and from errors in the antenna. (A new antenna has since been made, which has less loss and gives better illumination; the corresponding coefficient is 0.25 (gain 56 db).) The results show that the patterns can be recorded and the system adjusted by making measurements at short distances.

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SOV/120-59-2-6/50

... Experience with Adjusting a Large Radio Telescope

The work was carried out under the guidance of  
S.E. Khaykin. Thanks are given to E.V. Braud and  
S.E. Khaykin for valuable assistance and advice.

Card 5/5

[This is a complete translation]

There are 4 figures and 2 Soviet references.

ASSOCIATION: Leningradskiy politekhnicheskii institut (Leningrad  
Polytechnical Institute)

SUBMITTED: January 20, 1958

87234

S/058/50/100/111/007/ 107  
AGG1/R301

3,1200

Translation from: Referativnyy zhurnal, Fizika, 1960, No. 11, p. 378, # 30961

AUTHOR: Yesepkina, N.A.

TITLE: An Investigation of the Feasibility of Constructing a Radiotelescope With the Reflector Variable Profile and Output Aperture Area of 10,000 - 20,000 m<sup>2</sup> for Centimeter Wavelengths

PERIODICAL: Nauchno-tekhn. inform. byul. Leningr. politekhn. in-t, 1959, No. 5, p. 89

TEXT: This is the brief summary of an article in which the feasibility is considered of constructing a radiotelescope with a reflector variable profile (RZh Fiz, 1959, No. 11, # 25833) and aperture area of  $(1 \div 2) \times 10^4 \text{ m}^2$ . The author reviews existent radiotelescopes and those being designed and presents their comparative characteristics. She considers the specific features of an antenna with a reflecting variable profile, in particular its directivity diagram, the Earth's effect, and the effects of errors in manufacture and mounting of individual parts. The author concludes that the construction of antennas with a variable profile and  $\sim (1 \div 2) \times 10^4 \text{ m}^2$  area for decimeter wavelengths is feasible. A.k

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

69893

S/109/60/005/04/008/028  
E140/E435

9.1000

AUTHORS: Braude, B.V., Yesepkina, N.A., Kaydanovskiy, N.L.  
and Khaykin, S.E.

TITLE: The Effects of Random Errors on the Electrical  
Characteristics of Narrow-Beam Antennas with Variable-  
Profile Reflectors

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol 5, Nr 4,  
pp 584-596 (USSR)

ABSTRACT: When a reflector antenna<sup>25</sup> is constructed of individually  
adjustable plane elements the directional characteristics  
may be much better than those of a normal reflector  
antenna of rigid metal construction of equivalent aperture.  
The random and periodic errors of such construction are  
analysed. Certain of the conclusions of this analysis  
have been tested on the large<sup>7</sup> radiotelescope of  
GAO AN SSSR (GAO Academy of Sciences USSR). While the  
76 m paraboloid built in England permits work on a  
wavelength of 0.7 m (precision  $10^{-3}$ ), the radiotelescope  
of GAO has a precision of  $4 \times 10^{-5}$ , with invar-wire  
construction aligned by an ordinary theodolite. It is  
expected that this type of antenna on rocky ground

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69895

S/109/60/005/04/008/028  
E140/E435

The Effects of Random Errors on the Electrical Characteristics of  
Narrow-Beam Antennas with Variable-Profile Reflectors

aligned by precision geodetic instruments will permit  
precisions of  $10^{-5}$  to  $10^{-6}$  and apertures of the order  
of 1 km. There are 8 figures and 5 references,  
4 of which are Soviet and 1 French.

SUBMITTED: July 1, 1959

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07354

9.1910

S/035/60/000/012/012/019  
A001/A001

Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1960, No. 12,  
p. 48, # 12267

AUTHORS: Khaykin, S. E., Kaydanovskiy, N. L., Yesepkina, N. A., Shivrta, O. N.

TITLE: The Great Pulkovo Radiotelescope

PERIODICAL: Izv. Gl. astron. observ. v Pulkove, 1960, Vol. 21, No. 5, pp. 3-26  
(English summary)

TEXT: The authors describe the principle, design and results of investigation of the new mirror radiotelescope for centimeter wavelengths. The radio-telescope has the large surface of the reflector and is characterized by the high resolving power. Some astronomical results obtained by means of this instrument are presented. The reflector of the radiotelescope consists of a number of flat reflecting elements which form a polyhedral surface touching the surface of an elliptic cone. The reflector transforms the plane incident wave into a cylindrical one with a vertical axis. The cylindrical wave is transformed into a spherical one by the second mirror, a parabolic cylinder. The high relative precision of

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87354

S/035/60/000/012/012/019  
A001/A001

The Great Pulkovo Radiotelescope

the dismembered reflecting surface is achieved by the precise arrangement of its individual elements. The axis of the radiotelescope can be installed in any direction by displacements of reflecting elements and irradiator. Geometry of the reflecting surface, special features of the radiotelescope directivity diagram, and kinematics of mechanisms for the positioning of reflecting elements, are considered, and the measured characteristics of the radiotelescope are presented. There are 22 references.

From authors' summary

Translator's note: This is the full translation of the original Russian abstract

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30426  
S/109/61/006/012/001/020  
D266/D305

9.1911 (1127)

AUTHORS: Yesepkina, N.A., Kaydanovskiy, N.L., Kuznetsov, B.G.,  
Kuznetsova, G.V., and Khaykin, S.E.

TITLE: Investigating the radiation pattern of highly direc-  
tive antennas whose reflecting surface is adjustable

PERIODICAL: Radiotekhnika i elektronika, v. 6, no. 12, 1961,  
1947 - 1960

TEXT: The purpose of the paper is to derive mathematical expressi-  
ons for the radiation pattern and for the effective area of a cer-  
tain class of antennas. The antenna investigated consists of a lar-  
ge number of elements (rectangular metal plates of height  $h$  and  
width  $a$ ) whose position and inclination are adjustable. The elements  
are in no mechanical contact with each other which facilitates grea-  
ter accuracy of manufacturing. They can be adjusted in such a way  
that the main lobe of the vertical radiation pattern is in a speci-  
fied direction ( $\theta_0$  in Fig. 1). This condition is satisfied if the  
radius vector of the center of the elements is given by the follow-

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S/109/61/006/012/001/020

Investigating the radiation pattern ... D266/D305

ing formula

$$\rho = \frac{p}{1 + \cos \theta_0 \cos \varphi} = \frac{R_0 - a_0 \cos \theta_0}{1 + \cos \theta_0 \cos \varphi} \quad (1)$$

where  $p$  - constant,  $\varphi$  - angle between the radius vector and the x axis (see Fig. 1). If  $0 < \theta_0 < \pi/2$  (1) represents an ellipse, for  $\theta_0 = 0$  a parabola, and for  $\theta_0 = \pi/2$  a circle. It follows from (1) that the distance between the primary source and the reflector depends also on  $\theta_0$ . The inclination of the metal plates is determined by the angles  $\beta$  and  $\chi$  (see Fig. 1) which are related to  $\theta_0$  and as follows

$$\sin \beta = \frac{\sin \theta_0}{\sqrt{2(1 + \cos \theta_0 \cos \varphi)}} \quad (3)$$

and

$$\tan \chi = \frac{\sin \varphi}{\cos \theta_0 + \cos \varphi} \quad (4)$$

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Investigating the radiation pattern ... S/109/61/006/012/001/020  
D266/D305

In a plane perpendicular to the direction of the main lobe, the waves are in phase (this must be always the case because the antenna was designed according to this criterion) and the shape of the illuminated area in this plane is an incomplete ring. The distribution of the electric field (both polarizations are present) in the aperture is calculated by geometrical optics and the far field is obtained with the aid of wave optics. The arising integrals are integrated out leading to an infinite series of Bessel functions of the first kind. The radiation pattern is calculated for the reflector current as well. No analytical solutions are found in this case, but some numerical calculations indicate similar results to those obtained by the aperture method. Aperture efficiency is also determined and monotonically decreasing function of  $\theta$  is found. In conclusion the authors express their gratitude to V.B. Braude for his assistance. There are 15 figures and 9 references: 8 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: S. Silver, Microwave Antenna Theory and Design, M.I.T. Rad. Lab. Series.

SUBMITTED: February 22, 1961

Card 3/8 3

34489

S/109/62/007/002/008/024  
D266/D303

9,19/2

AUTHORS: Kontorovich, M.I., Petrun'kin, V.Yu., Yesenkina, N.A.,  
and Astrakhan, M.I.

TITLE: Reflection coefficient of plane electromagnetic waves  
reflected by a planar wire grating

PERIODICAL: Radiotekhnika i elektronika, v. 7, no. 2, 1962,  
239 - 249

TEXT: The paper provides some theoretical and experimental data on  
the reflection of electromagnetic waves by a set of wires. The phy-  
sical arrangement can be seen in Fig. 1: The wires are infinitely  
long and have infinite conductivity, the diameter of the wires is  
 $2r_0$  placed a distance  $a$  from each other. The two different sets (be-  
ing rectangular to each other) are separated by a distance  $l$ . If  
the limitations

$$r_0 \ll a, \quad l \ll a, \quad a \ll \lambda \quad (1)$$

are imposed, then M.I. Kontorovich's approximate boundary condi-  
tions can be used (Ref. 1: Primeneniye metoda usredneniya poley k

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Reflection coefficient of plane ...

S/109/62/007/002/008/024  
D266/D303

issledovaniyu nekotorykh elektricheskikh sistem (Application of the Field Averaging Method to Study of Some Electrical Problems ) Doctoral Thesis, LPI, 1940). Assuming an incident plane wave of arbitrary polarization the authors derive a general formula for the reflection coefficient with the aid of the above boundary conditions. The formula is evaluated for vertical polarization. It contains a parameter  $\chi$  which represents the coupling between the two sets of wires ( $\chi = 0$  for  $l = 0$ ). A numerical example is worked out for  $a/r_0 = 50$  and  $a/\lambda = 0.25$ . The absolute value of the reflection coefficient is plotted against the elevation angle  $\theta$ , for a number of  $\chi$  and  $\varphi$  (azimuth angle) values. The reflection coefficient is independent of  $\varphi$  if  $\chi = 0$  and independent of  $\chi$  if  $\varphi = 45^\circ$ . The authors conclude that if a larger reflection coefficient is to be attained the two sets of wires must not be joined together. If the distance between the wires is comparable with the wavelength the accuracy of the calculations decreases. Experiments were carried out at  $\lambda = 3.2$  cm on a  $1 \times 1$  m<sup>2</sup> model taking  $r_0/\lambda = 1/200$  and  $a = \lambda/4$ . The experimental results give further confirmation of the theory. There are 4 figures and 3 references: 2 Soviet-bloc and 1 non-

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Reflection coefficient of plane ...

S/109/62/007/002/000/000  
D266/D303

Soviet-bloc. The reference to the English-language public literature is as follows: J.R. Wait, Appl. Scient. Res. B, 1954, 4, 383.

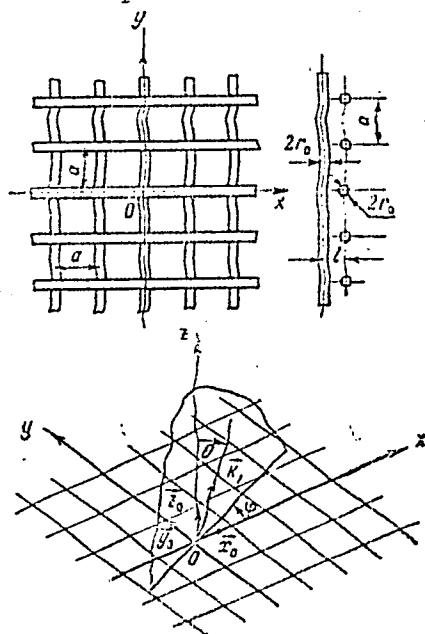
SUBMITTED: June 12, 1961

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Reflection coefficient of plane ...

S/109/62/007/002/008/121  
D266/D303

Fig. 1.



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SALOMONOVICH, A.Ye.; BRAUDE, B.V.; YESEPKINA, N.A.

Measurement of the parameters of highly-directional antennas  
in the nearest zone. Radiotekh. i elektron. 9 no.6:1069-1076  
Je '64. (MIRA 17:7)

"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001962920006-6

APPROVED FOR RELEASE: 03/15/2001

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**"APPROVED FOR RELEASE: 03/15/2001**

**CIA-RDP86-00513R001962920006-6**

**APPROVED FOR RELEASE: 03/15/2001**

**CIA-RDP86-00513R001962920006-6"**



YESEPKINA, N.A.; KUZNETSOV, B.G.; KHAYKIN, S.E.

Effect of fluctuations of the atmospheric refraction index on  
the characteristics of superlarge antennas. Izv. GAO 23 no.3:  
155-159 '64. (MIRA 17:11)

ACC NR: AT6004855

SOURCE CODE: UR/2563/65/000/255/0067/0067

AUTHOR: Yesepkina, N. A.; Pavlov, B. Ya.; Patrunkin, V. Yu.

ORG: none

TITLE: Strip power dividers

SOURCE: Leningrad, Politekhnikheskiy institut. Trudy, no. 255, 1965. Radioelektronika (Radio electronics), 67-69

TOPIC TAGS: power divider, strip transmission line, microstrip

ABSTRACT: Strip-type exponential power dividers intended for supplying r-f power to multielement antennas are briefly described. Ratios  $l/\lambda$  for various  $w_2/w_1$  and TW ratios are tabulated; here  $l$  is the exponential-conductor length,  $\lambda$  is the wavelength,  $w_2$  and  $w_1$  are the terminal impedances of the divider. Curves of amplitude distribution over the output cables and of TW ratio within 500—700 Mc are presented. The above divider has been for division ratios up to 20. For higher ratios, a combination of ten strip exponential dividers arranged circularly and a strip (or coaxial) transformer is suggested. Orig. art. has: 4 figures, 1 formula, and 1 table. [03]

SUB CODE: 09/ SUBM DATE: none/ OTH REF: 002/ ATD PRSS: 42/8

Card 1/1 *dk*



**"APPROVED FOR RELEASE: 03/15/2001**

**CIA-RDP86-00513R001962920006-6**

**APPROVED FOR RELEASE: 03/15/2001**

**CIA-RDP86-00513R001962920006-6"**

PETRUN'KIN, V.Yu.; YESEPKINA, H.A.

Adjustment of radio telescopes with flat reflectors. Radiotekhn.  
i elektron. 10 no.12:2236-2240 D 415.

(MIRA 19:1)

1. Submitted February 4, 1965.

BRAUDE, B.V.; PETRUN'KIN, V. Ya.; YESEPKINA, N.A.

*Design of beam transmission lines. Radiotekh. i elektron. 11*  
no. 2:342-345 F '66 (MIRA 19 : 2)

1. Submitted April 12, 1965.

L 27540-66 EWT(1)/T WR

ACC NR: AP6007514

SOURCE CODE: UR/0109/66/011/002/0342/0349

AUTHOR: Braude, B. V.; Petrunkin, V. Yu.; Yasepkina, N. A.

ORG: none

TITLE: Calculation of beam transmission lines

SOURCE: Radiotekhnika i elektronika, v. 11, no. 2, 1966, 342-345

TOPIC TAGS: beam waveguide, light pipe, electromagnetic wave, antennas

ABSTRACT: The propagation of electromagnetic waves in beam lines is described in terms of the theory of focused antennas; in the pencil-beam antennas, the focusing is intended for Fresnel region tuning; in the beam guides, the focusing is used for ensuring small diffraction losses. The guide is regarded as a series of focused antennas, the first half-lens focusing the wave on the second half-lens, and the latter compensating the quadratic phase errors that arise near the center of the converging beam. A formula for the amplitude distribution over the cross-section of the second lens is developed. Estimated diffraction losses in the lens line are: between the first and the second lenses, 0.056 db; for intermediate lenses, 0.0122 db per lens; in the receiving horn, 0.18 db. The 0.0122-db-loss per lens is much smaller than that estimated (0.035 db) by J. R. Christian and G. Goubau (IRE Trans., 1961, AP-9, 3, 256). Orig. art. has: 5 figures and 9 formulas.

SUB CODE: 20, 09 / SUBM DATE: 12Apr65 / ORIG REF: 003 / OTH REF: 004

Card 1/1 *BL*

UDC: 621.396.679.433.001.24

L 11092-66 EMT(1)/T/FBD CH/WS-2/WR  
ACC NR: AP6027233

SOURCE CODE: UR/0109/66/011/008/1405/1412

AUTHOR: Yesepkina, N. A.; Kaydanovskiy, N. L.; Korol'kov, D. V.; Kuznetsov, B. G.;  
Khaykin, S. E.

ORG: none

TITLE: Effects of atmosphere on characteristics of small radio telescopes

SOURCE: Radiotekhnika i elektronika, v. 11, no. 8, 1966, 1405-1412

TOPIC TAGS: radio telescope antenna, radar antenna, *ATMOSPHERIC PROPERTY*;  
*RADIO WAVE ABSORPTION*

ABSTRACT: A study is conducted of atmospheric effects on the performance of a high-resolution radio telescope antenna with a variable profile. Factors influencing the antenna dimensions, such as wavefront phase distortions, existence of a gradient of index of refraction, and radio wave absorption in the ground layer of the atmosphere are considered. It is noted that phase distortion can be minimized if the average radius of curvature of the reflector is much greater than the height of irregularities in the atmosphere. By assuming a  $10^{-4}$  relative accuracy of the antenna reflecting surface and mean atmospheric conditions, antenna gain was calculated for various azimuth angles. Nearly optimal performance conditions were found for the vertical dimensions of a reflector equal to  $0.5 \times 10^3 \lambda$ , and horizontal dimensions of an antenna chosen to make the attenuation equal to 30%. With such a choice of

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UDC: [522.2:523.164]+621.371.24



L 11092-66

ACC NR: AP6027233

dimensions, the effective area of the antenna is  $2 \times 10^5$ ,  $1.3 \times 10^4$ ,  $0.9 \times 10^3 \text{ m}^2$   
for  $\lambda = 10, 3$  and  $1 \text{ cm}$ , respectively. Orig. art. has: 6 figures and 2 formulas. [IV]

SUB CODE: 09, 17/ SUBM DATE: 12Apr65/ ORIG REF: 012/ OTH REF: 003/ ATD PRESS: 5052

Card 2/2 hs

L 40973-66 FBD/EWT(1)/T - GW/WS-2/WR

ACC NR: AP6027241

SOURCE CODE: UR/0109/66/011/003/1499/1503

AUTHOR: Braude, B. V.; Yesepkina, N. A.; Petrunkin, V. Yu.; Khaykin, S. E.  
Umetskiy, V. N.

ORG: none

TITLE: Application of methods for correction of the surfaces of optical  
telescopes to tuning of highly directional radio telescopes

SOURCE: Radiotekhnika i elektronika, v. 11, no. 8, 1966, 1499-1503

TOPIC TAGS: antenna, radio telescope antenna, antenna modulation, antenna tuning,  
radio telescope

ABSTRACT: A modified version of the so-called shadow method of tuning is proposed. The shadow method in its original form is used for correcting the surface of optical reflectors, but it does not assure the required accuracy and reliability when applied to large, highly directional radio telescopes. The modification consists of providing ways of producing converging waves near the antenna and of localizing errors on the mirror surface. The principles of localizing surface errors and of determining the shape of the reflecting antenna surface, based on the modulation of signals reflected from various sections of the antenna, are briefly described. In this

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L 40973-66

ACC NR: AP6027241

procedure (see Fig. 1) the reflecting surface is made of comparatively small movable (adjustable) elements. One or more slightly directional modulated reradiators

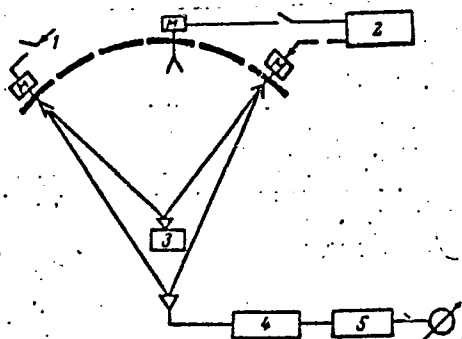


Fig. 1. Shadow method tuning arrangement

- 1 - From generation of  $\Omega$ -frequency signals;
- 2 -  $\Omega$ -frequency modulating generator;
- 3 -  $\omega$ -frequency signal generator; 4 - detector;
- 5 -  $\Omega$ -frequency signal amplifier.

(small dielectric or slot antennas with shf modulators) are mounted on each element. A generator is placed at one of the antenna focal points and a receiver with a detector and filter tuned to frequency  $\Omega$  at the other. With such an arrangement, equal paths are obtained between the first and the second focal points. The modulated signal is produced by one of the reradiators, and a reference signal is produced by the sum field reflected from all of the antenna elements. Phase measurements with an accuracy of  $0.5^\circ$  at  $\lambda = 3$  cm were made by the modulation method under laboratory conditions. In general, the tuning of a highly directional radio telescope should

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L 40973-66

ACC NR: AP6027241

proceed as follows: 1) the antenna is first focused for a short distance to obtain a converging wave front; 2) the reflector surface is then checked and corrected by the modulation method; 3) the antenna radiation pattern is checked by placing a generator at one focal point and measuring the field distribution near the other focal point. The distribution should coincide with the antenna radiation pattern in the far zone. When the measured antenna radiation pattern (field distribution near the focal point) is found to be in good agreement with the calculated one, the antenna should be focused to infinity, i. e., a plane wave should be obtained from the radio telescope. The operation of the system is then checked against cosmic radio sources having small (compared to the width of the radiation pattern) angular dimensions. 'Orig. art. has: 2 figures and 8 formulas. [JR]

SUB CODE: 17, 09 SUBM DATE: 18Dec65/ ORIG REF: 006/ OTH REF: 001/ ATD PRESS: 5058

Cord 3/3 MLP

ACC NR: AP7001312

SOURCE CODE: UR/0057/66/036/012/2171/2174

AUTHOR: Bonch-Bruyevich, A. M.; Petrun'kin, V. Yu.; Arzumanov, V. M.; Yasepkina, N. A.; Imas, Ya. A.; Krushalov, S. V.; Pakhomov, L. N.; Chernov, V. A.

ORG: none

TITLE: A study of a neodymium glass laser with external feedback

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 12, 1966, 2171-2174

TOPIC TAGS: solid state laser, glass laser, neodymium glass laser, traveling wave laser, laser r and d

ABSTRACT: A study was made of a traveling-wave external-feedback neodymium glass laser, the experimental setup of which is shown in Fig. 1. The external cavity consisted of four mirrors arranged in a rectangular pattern (1.5 x 0.5 m). The output mirror (5') was 80% reflective and the three other mirrors were 99% reflective. The active medium was a cylindrical glass rod 240 mm long and 25 mm in diameter. The laser was pumped by two IFK-15,000 flashlamps fed from a condenser bank having a total stored energy of 30 kJ. A Faraday-effect cell, consisting of a quartz plate and a polarizer (six plane-parallel Brewster-angle plates) was used to achieve traveling-wave operation. A DFS-8 spectrograph (dispersion 6 Å/mm) and a Fabry-Perot interferometer were used to observe the emission spectra of the laser at various pumping levels and with the Faraday cell in and out of the feedback circuit. It was shown that the emission spectra of traveling-wave lasers are virtually line spectra and

Card 1/2 UDC: 621.378.32

ACC NR: AP7001312

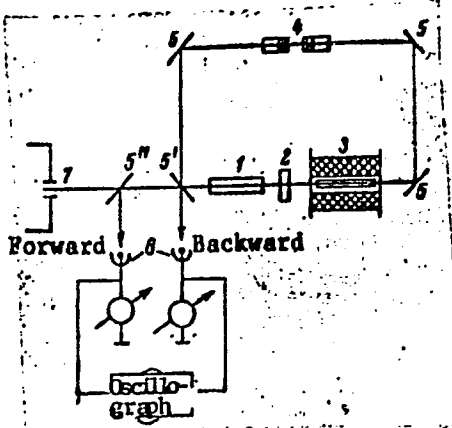


Fig. 1. Experimental setup of a traveling-wave laser

- 1 - Working substance; 2 - quartz plate;
- 3 - Faraday cell; 4 - polarizer;
- 5 - 5' - mirrors; 6 - photocells;
- 7 - spectrograph slit.

that the spiking sequence is better ordered than that of standing-wave lasers. A reduction of the spectrum to a single narrow line, which has been observed in traveling-wave ruby lasers, was not encountered in the present laser. Such narrowing in the traveling-wave operation will not occur unless the luminescence line of the working substance broadens, as it does in rubies. The high-intensity lines observed in the experiments corresponded to the uniform broadening of luminescence lines of the dopant. Orig. art. has: 5 figures. [YK]

SUB CODE: 20/ SUBM DATE: 01Jun66/ OTH REF: 003/ ATD PRESS: 5110

Card 2/2

ACC NR: AP7002676

AUTHOR: Petrun'kin, V. Yu.; Yesepkina, N. A.; Kruzhalov, S. V.; Pakhomov, L. N.; Chernov, V. A.

SOURCE CODE: UR/0109/67/012/001/0146/0149

ORG: none

TITLE: Formation of the traveling wave in a complex optical resonator

SOURCE: Radiotekhnika i elektronika, v. 12, no. 1, 1967, 146-149

TOPIC TAGS: laser, ring laser, traveling wave, ~~laser, traveling wave, laser~~  
~~resonator, optic resonator~~

ABSTRACT: An analysis is made of a method for calculating a ring resonator with supplementary external mirrors to obtain traveling wave excitation. The method is based on the theory of long lines as applied to the analysis of conditions for natural oscillation of the system. The essential part of the external arrangement is a system of two mirrors: one, with a partial transmission, is inclined to the beam, and the other, which is fully reflecting is placed perpendicularly to the beam. A system of equations is given for the wave amplitudes as functions of the distance between the mirrors and their transmission and reflective indexes. The scattering matrix of the system is determined relative to the complex wave number, the real and imaginary parts of which represent, respectively, the natural frequency and the attenuation factors. The problem is solved for certain special cases, and from these solutions the relationship between the wave number and the parameters of the entire system (expressed

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UDC: 621.372.4.029.67

ACC NR: AP7002676

through a constant) can be deduced. Generally, however, the unavoidable reflection from the end facer of the resonator produces a reverse wave which must be eliminated before the operating traveling wave can travel only in one direction. This can be achieved either by coatings or by causing the reflected beams to deviate from the resonator axis and thus be ousted from the system. A rectangular ring laser, with near-optimal parameters, equipped with two supplementary mirrors as described, and with the end reflection eliminated by inclination of the active medium with respect to the resonator optical axis, was experimentally investigated under actual traveling-wave operation. Orig. art. has: 3 figures and 10 formulas. [WA-14]

SUB CODE: 20/ SUBM DATE: 29Jun66/ ORIG REF: 001/ OTH REF: 002/

Card 2/2



ACC NR: AP7001313

SOURCE CODE: UR/0057/66/036/012/2175/2180

AUTHOR: Bonch-Bruyevich, A. M.; ~~Yesenkina, N. A.~~; Imas, Ya. A.;  
Pavlenko, N. A.; Pakhomov, L. N.; Petrun'kin, V. Yu.; Potapov, S. Ye.

ORG: none

TITLE: Investigation of a neodymium glass laser with a resonator of  
spherical mirrors

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 12, 1966, 2175-2180

TOPIC TAGS: <sup>separate</sup> laser, neodymium laser, ~~neodymium~~ glass laser, spherical  
mirror ~~resonator~~, laser pumping

ABSTRACT: The operational characteristics of a neodymium glass laser  
with a resonator of spherical mirrors were investigated for varying  
distances between the mirrors. The introductory theoretical considera-  
tions proceed from results obtained earlier by other authors (e.g.,  
Boyd and Gordon, Bell. System. Techn. J., 40, 2, 1961, 489) and define  
the regions occupied by certain modes as determined solely by the dis-  
tance between the mirrors and the radius of their curvature. Further,  
the beam divergence is assumed to be determined by the divergence of the  
highest mode in the system. The minimum divergence is attained when the

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UDC: 621.378.32

ACC NR: AP7001313

results in the appearance and separation of lines. The results suggest the existence, within the resonator, of a large number of transverse modes having equal Q. However, the observed multiplicity of spectral lines still requires clarification. Orig. art. has: 6 figures and 9 formulas. [WA-14]

SUB CODE: 20/ SUBM DATE: 01Jun66/ ORIG REF: 003/ OTH REF: 004

Card 3/3

YESEPKINA, N.A.; PETRUN'KIN, V.Yu.; KUZNETSOV, B.G.; UMETSKIY, V.N.;  
VASIL'YEV, B.A.

Space harmonics of the antenna pattern of the large Pulkovo radio  
telescope. Izv. GAO 23 no.3:116-121 '64.

(MIRA 17:11)

PETRUN'KIN, V.Yu.; YESEPKINA, N.A.; KUZNETSOVA, G.V.; KUZNETSOV, B.G.

Effect of rotation of the principal cross sections of the  
directivity diagram of an antenna with a variable-profile  
reflector. Izv. GAO 23 no.3:160-161 '64.

(MIRA 17:11)

GOLUBOV, R.S.; YESERKEPOVA, T.A.

Preliminary data on the study of conditions causing bumpy flight  
of high-altitude high-speed aircraft in the upper troposphere.  
Trudy KazNIGMI no.15:3-10 '60. (MIRA 14:1)

(Atmospheric turbulence)  
(Kazakhstan--Meteorology in aeronautics)

ACCESSION NR: AT4015882

S/2650/63/000/020/0031/0044

AUTHOR: Yeserkepova, T. A.

TITLE: Synoptic-meteorological conditions for formation of a strong wind in the Dzhungarskiye Vorota (Dzhungarian Pass)

SOURCE: Alma-Ata. Kazakhskiy n.-i. gidrometeorol. institut. Trudy\*, no. 20, 1963 Voprosy\* sinoptiki i meteorologii (Problems of synoptics and meteorology), 31-44

TOPIC TAGS: meteorology, wind, meteorological local phenomenon, atmospheric pressure, atmospheric pressure gradient, climate, climatology.

ABSTRACT: *The reasons for the development of strong winds in the Dzhungarskiye Vorota (mountain pass), identified in Fig. 1 of Enclosure, are discussed. Study of conditions in the pass are important because of plans for construction of a railroad to the Chinese People's Republic. A study of synoptic conditions was made to explain and lay the basis for prediction of the orographic intensification of winds in the pass, which sometimes attain velocities as great as 70.5 m/sec. Local, regional and hemisphere data are used, but the most important data exploited are for Dzhungaria station, situated in the northern part of the pass, and Druzhba station, in the southern part of the pass. It was found that*

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АВСТРАЛИЙСКИЙ; АВСТРАЛИЙСКИЙ

the variety of local wind known as the evgey predominates at Dzhungaria station; its duration is up to seven days, maximum occurrence is in winter, and in some summers wind velocities never reach 14 m/sec. The local wind known as the saykan predominates at Druzhba station; it has a more even distribution but a duration of no more than two days. Mean velocities of both winds in summer are somewhat less than during other seasons, but exceptions occur. Orographic wind intensification occurs in the surface layer up to 700 m, but in most cases only to 500 m. Due to surface friction the storm winds in 54% of all cases do not include the lower 100-meter layer. Mean wind velocity increases with height and is maximum in the 400-500 meter layer. During the evgey the air temperature usually increases and barometric tendencies have negative values. During the saykan the temperature always decreases. The typical synoptic situation for development of the saykan is the presence of an anticyclone in the north or northwest of the pass. During the evgey there usually is an anticyclone whose center is to the east, northeast or southeast of the pass. In both cases there are specific pressure gradients, particularly in the pass between the two key stations. Orig. art. has: 6 figures and 4 tables.

ASSOCIATION Kazakhskiy nauchno-issledovatel'skiy gidrometeorologicheskii institut  
(Kazakh Hydrometeorological Scientific Research Institute.)

Card 2/02

YESERKEPOVA, T.A.

Synoptic and meteorological conditions governing the formation  
of high wind in the Dzungarian Gate. Trudy KazNIGMI no.20:  
31-44 '63. (MIRA 17:5)



COLUBOV, R.S.; YESERKEPOVA, T.S.

Conditions governing the origination of turbulence in the  
upper half of the troposphere. Trudy KazNIGMI no.20x3-30 '69.  
(MEP: 17:5)

YESERKEPOVA, T.A.

Forecasting a southeaster. Trudy KazNIGMI no.21:77-82 '64.  
(MIRA 17:11)

L 40278-66 BWT(1) GW

ACC NR: AR6014566

SOURCE CODE: UR/0169/65/000/011/2045/2045

AUTHOR: Yeserkenova, T. A.

37  
B

TITLE: Moderate gales over central and eastern Kazakhstan

SOURCE: Ref. zh. Geofizika, Abs. 11B316

REF SOURCE: Tr. Kazakhsk. n.-i. gidrometeorol. in-ta, vyp. 23, 1965, 39-80

TOPIC TAGS: wind, kinetic energy, pressure gradient, wind velocity

ABSTRACT: A value proportional to the product of the kinetic energy of the wind times the duration of the given wind velocity is used as an energy parameter of the wind characteristic. A classification of the synoptic processes in which strong gales appear is given. A method of quantitative prediction of diurnal wind variation and of the duration of a moderate gale for level places according to the pressure gradient and advective variations in the pressure gradient is discussed. A. Buz [Translation of abstract]

SUB CODE: 04

Card 1/1 *MLP*

UDC: 551.552

ACC NR: AR6016951

SOURCE CODE: UIR/0169/65/000/012/B037/B037

AUTHOR: Yeserkepova, T. A.

TITLE: Strong winds of the Dzungarian Gates

SOURCE: Ref. zh. Geofizika Abs. 12B242

REF SOURCE: Sb. Geogr. probl. osvoyaen. pustyn. i gorn. territoriy Kazakstana. Alma-Ata, Kazakhstan, 1965, 117-118

TOPIC TAGS: <sup>orography,</sup> wind, wind velocity, weather forecasting/ Dzungarian Gates Kazakhstan

ABSTRACT: At a definite development of synoptic conditions, because of orographic features, winds up to 70-80 m/sec develop in the Dzungarian Gates. At an increase of eastern wind above 20 m/sec, and a cyclonic curvature of the isohypses over the Aakol'skiye lakes, orographic cyclogenesis appears. Air moves under the geometric sum action of the baric and the pressure gradients. A strong SE wind (yevgey) is observed with the anticyclone E., NE. or SE of the Dzungarian Gates when baric gradient exceeds 1 mb/1° of meridian and its direction (d) is  $210^\circ < d < 330^\circ$ . For the development of the saykan, the anticyclone must be situated to the N or NW of the Dzungarian Gates and  $180^\circ > d > 0^\circ$ . For the prognosis of the yevgey, the aerological parameters can be utilized as reference points sensing the beginning, continuation and the end of the yevgey wind.

[Translation of abstract].

SUB CODE: 04,08

Card 1/1

IDC 551,555

YESERKEPOVA, T.A.

Strong winds over central and eastern Kazakhstan. Trudy  
KazNIGMI no.23:39-67 '65. (MIRA 18:9)

BARAB/SHOV, N.P.; YESERSKAYA, V.A.; YEZERSKIY, V.I.

Photometric investigation of the moon's surface. Uch.zap.KHGU  
122:107-110 '62. (MIRA 15:11)

(Moon---Surface)

YESEYEV, S.M., zamestitel' predsedatelya.

On the basis of scientific achievements. Nauka i zhizn' 20 no.11:30-32 N  
'53. (MLRA 6:11)

1. Kolkhoz imeni Molotova, Ramenskogo rayona, Moskovskoy oblasti.  
(Collective farms)

VOLYNKIN, Yu.M.; ARUTYUNOV, G.A.; ANTIPOV, V.V.; ALTUKHOV, G.V.;  
 BAYEVSKIY, R.M.; BELAY, V.Ye.; BUYANOV, P.V.; BRYANOV, I.I.;  
 VASIL'YEV, P.V.; VOLOVICH, V.G.; GAGARIN, Yu.A.; GENIN, A.M.;  
 GOREOV, F.D.; GORSHKOV, A.I.; GUROVSKIY, N.N.; YESHANOV, N.Kh.;  
 YEGOROV, A.D.; KARPOV, Ye.A.; KOVALEV, V.V.; KOLOSOV, I.A.;  
 KORESHKOV, A.A.; KAS'YAN, I.I.; KOTOVSKAYA, A.R.; KALIBERDIN,  
 G.V.; KOPANEV, V.I.; KUZ'MINOV, A.P.; KAKURIN, L.I.; KUDROVA,  
 R.V.; LEBEDEV, V.I.; LEBEDEV, A.A.; LOBZIN, P.P.; MAKSIMOV,  
 D.G.; MYASNIKOV, V.I.; MALYSHKIN, Ye.G.; NEUMYVAKIN, I.P.;  
 ONISHCHENKO, V.F.; POPOV, I.G.; PORUCHIKOV, Ye.P.; SIL'VESTROV,  
 M.M.; SERYAPIN, A.D.; SAKSONOV, P.P.; TEREENT'YEV, V.G.; USHAKOV,  
 A.S.; UDALOV, Yu.F.; FOMIN, V.S.; FOMIN, A.G.; KHLEBNIKOV, G.F.;  
 YUGANOV, Ye.M.; YAZDOVSKIY, V.I.; KRICHAGIN, V.I.; AKULNICHIEV,  
 I.T.; SAVINICH, F.K.; STIMPURA, S.F.; VOSKRESENSKIY, O.G.;  
 GAZENKO, O.G.; SISAYAN, N.M., akademik, red.

[Second group space flight and some results of the Soviet  
 astronauts' flights on "Vostok" ships; scientific results of  
 medical and biological research conducted during the second  
 group space flight] Vtoroi gruppovoi kosmicheskii polet i neko-  
 torye itogi poletov sovetskikh kosmonavtov na korabliakh  
 "Vostok"; nauchnye rezul'taty medikobiologicheskikh issledovaniy,  
 provedennykh vo vremia vtorogo gruppovogo kosmicheskogo poleta.  
 Moskva, Nauka, 1965. 277 p. (MIRA 18:6)



YUSHEBAYEV, N.

bor'ba za vysokii urozhai khlopka [Effort towards higher yields of cotton]. Stalinabad, Tadzhikgosizdat, 1952. 40 p.

SO: Monthly List of Russian Accessions, vol. 6 No. 11 February 1954

(ADH) 10/10/10

AID P - 2787

Subject : USSR/Chemistry

Card 1/1 Pub. 152 - 15/19

Authors : Sadykov, A. S., O. S. Otroshchenko, and A. E. Eshbayev

Title : Separation of alkaloids of Anabasis Aphylla with ammonium chloride

Periodical : Zhur. prikl. khim. 28, 4, 440-444, 1955

Abstract : The reactions were carried out in various solvents: chloroform, acetone, isopropyl alcohol, and dioxane. In experiments on the separation of anabasine and lupinine, a 95% yield of anabasine hydrochloride was obtained. With a 10% excess of ammonium chloride, an almost quantitative yield of technical grade anabasine hydrochloride and 86% of lupinine were obtained. Two tables, 4 references (3 Russian: 1923-1953).

Institution : None

Submitted : D 21, 1953

*YESHCHENKO, A.A.*  
ARSENT'YEV, A.I., kandidat tekhnicheskikh nauk; KITACH, G.M., gornyy inzhener;  
YESHCHENKO, A.A., gornyy inzhener

Two-level excavator terraces. Gor.shmr. no.6:16-19 Je '55. (MIRA 8:8)  
(Krivoy Rog--Iron mines and mining) (Mine haulage)

L 25972-66 FSS-2/ENT(1)/EEG(k)-2/EWA(d) SCIB TT/DD/GW

ACC NR: AP6015410

SOURCE CODE: UR/0216/66/000/003/0337/0345

AUTHOR: Kotovskaya, A. R.; Yeshanov, N. Kh.; Vartbaronov, N. A.; Simpura, S. F. 51  
13

ORG: none

TITLE: Physiological reactions of cosmonauts under the influence of acceleration during the Voskhod-1 flight 2

SOURCE: AN SSSR. Izvestiya. Seriya biologicheskaya, no. 3, 1966, 337-345 12

TOPIC TAGS: space flight, physiological change, cardiovascular system, electrocardiogram, weightlessness effect, acceleration effect

ABSTRACT: Physiological data from the Voskhod-1 flight were compared with preflight centrifuge data for all three cosmonauts. Comparison of laboratory pulse rates with pulse rates recorded during the prelaunch period showed higher prelaunch values for cosmonauts Komarov and Yegorov, but a lower value for Feoktistov. After launch, pulse and respiration rates continued to climb, reaching maximum values in the first 20-30 sec of flight, though acceleration forces at this point were small. During centrifuge tests the height of the T spike of electrocardiograms decreased with increased acceleration; however, the T spike decreased independent of changes in the magnitude of acceleration for all cosmonauts during spaceflight. Furthermore, recovery of the original T spike value during insertion into orbit occurred later than in centrifuge tests. This is apparently caused by a slower recovery process by

UDC: 612.2:612.3:629.195

Card 1/2

L 25972-66

ACC NR: AP6015410

the myocardium during spaceflight. Physiological shifts observed during spaceflight were similar in pattern to shifts noted during centrifuge tests, except that the degree of shifts in spaceflight was somewhat higher. This is probably due to greater emotional stress during spaceflight. The dynamics of physiological changes during the reentry stage of the Voskhod-1 flight showed considerable individual fluctuations, caused by changes in the reactivity of the organism more as a result of the preceding weightlessness than of emotional stress. The effect of weightlessness on the ability of the organism to endure subsequent accelerations is of great interest and can be studied further by comparing spaceflight data with centrifuge data. Orig. art. has: 1 table and 7 figures. [JS]

SUB CODE: 06/ SUBM DATE: 02Dec65/ ORIG REF: 001/ OTH REF: 007/ ATD PRESS: 4257

Card 2/2 FW

ARSEN'T'YEV, A.I., kandidat tekhnicheskikh nauk; KITACH, G.M., gornyy  
inzhener; ~~YESHCHENKO, A.A.~~, gornyy inzhener.

Practice of trench digging in rock. Ger.shur. no.12:16-23 D '55.  
(Krivoy Rog--Strip mining) (MIRA 9:4)

ARSENT'YEV, A.I., dotsent; YESHCHENKO, A.A., inzh.; BOYKO, N.P., inzh.;  
TERESHCHENKO, A.A., inzh.

Constructing an open-pit in the Central Ore-Dressing Combine. Izv.  
vys.ucheb.zav.; gor.zhur. 5 no.2:75-81 '62. (MIRA 15:4)

1. Krivorozhskiy gornorudnyy institut (for Arsent'yev, Yeshchenko).
2. Tsentral'nyy gornobogatitel'nyy kombinat (for Boyko, Tereshchenko).  
(Krivoy Rog Basin-Strip mining)

U  
ALEKSEYEV, F.K.; ANDRIYUTS, G.L.; ARSENT'YEV, A.I.; ASTAF'YEV, Yu.P.;  
BEVZ, N.D.; BEREZOVSKIY, A.I.; GENERALOV, G.S.;  
DOROSHENKO, V.I.; YESHCHENKO, A.A.; ZAPARA, S.A.; KALINICHENKO, V.F.;  
KARNAUSHENKO, I.K.; RIKOVA, Ye.I.; KOBOZEV, V.N.; KUPIN, V.Ye.;  
LOTOUS, V.K.; LYAKHOV, N.I.; MALYUTA, D.I.; METS, Yu.S.; OVODENKO,  
B.K.; OKSANICH, I.F.; PANOV, V.A.; POVZNER, Z.B.; PODORVANOV, A.Z.;  
POLISHCHUK, A.K.; POLYAKOV, V.G.; POTAPOV, A.I.; SAVITSKIY, I.I.;  
SERBIN, V.I.; SERGEYEV, N.N.; SOVETOV, G.A.; STATKEVICH, A.A.;  
TERESHCHENKO, A.A.; TITOV, D.S.; FEDIN, A.F.; KHOMYAKOV, N.P.;  
SHEYKO, V.G.; SHEKUN, O.G.; SESTAKOV, M.M.; SHTAN'KO, V.I.

Practice of construction and exploitation of open pits of Krivoy  
Rog Basin mining and ore dressing combines. Gor. zhur. no.6:  
8-56 Je '63. (MIRA 16:7)

(Krivoy Rog Basin—Strip mining)



YESHCHENKO, A.A., gornyy inzh.

analytic estimate of the unfolding of mining operations during  
the working of steep ore bodies of regular shape. Zhov. nauch.  
trud. KGRI no.15422-40 163. (MIRA 1788)

YESHCENKO, A.A., gornyy inzhener

Boring and blasting operations with increased parameters in some  
open-pit mines. Sbor. nauch. trud. KGBI no.7:162-171. '59.  
(MIRA 16:9)

(Boring) (Blasting)

ARSENT'YEV, Aleksandr Ivanovich; VINOGRADOV, Vladimir Samoylovich;  
DZYUBENKO, Mikhail Grigor'yevich; YESHCHENKO, Aleksey  
Andreyevich; KALYAKIN, Viktor Vasil'yevich; KAPAZIN,  
Vitaliy Ivanovich; KISELEV, Vyacheslav Mikhaylovich;  
KULIKOV Vladimir Vasil'yevich; MELESHKIN, Sergey Mikhaylovich;  
SINARENKO, Aleksandr Ivanovich; KHVIRENKO, Akim Poteyevich;  
SHKUTA, Eduard Ivanovich; SHOSTAK, Afonasiy Grigor'yevich;  
MOSKAL'KOV, Yevgeniy Fedorovich, retsenzent; SOSEDOV, Orest  
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